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Copy 2 of 7

NRO REVIEW COMPLETED

28 November 1958

MEMORANDUM FOR: Special Assistant to the Director
for Planning and Development

SUBJECT : CORONA Progress Meeting -- 20 November 1958

1. Subject meeting revealed generally good progress on all fronts with exceptions noted below.

2. Cameras: The camera schedule has been revised to allow for the flexibility to utilize cameras [redacted] in flight Nos. 10 and 14, if needed or desired. Camera deliveries are presently on such schedule. To stay on such a schedule, however, depends on freezing the present camera design. The camera has a minor redesign now incorporated in which the lens barrel completes its sweep when the camera is turned off, rather than stopping at random points of the sweep when the "off" switch is activated. It has been determined that a 10° temperature shift across the filter will not affect the image. Present thermal tests indicate that the thermal gradient (which is radial) does not exceed 10° . Itak is designing a new lens which may be ready for the last four camera flights. The new lens will have better resolving power over a wider angle than the old lens. The present lens falls off to 75 lines off-axis -- the new lens is expected to be 100 lines off-axis.

25X1

3. Thermal Tests: New thermal tests utilizing a non-deliverable but nevertheless completely checked-out camera are due to be run in mid-January. Such camera tests will include cycling the film and such film will be sent to EK for tests. Itak will put a latent image on this test film. The tests will be run in Lockheed's thermal chamber which duplicates, as nearly as is possible, actual flight conditions.

4. GE Items: No GE representatives were at the meeting and Jim Plummer reported on this item. Additional sublimating material needs to be added to the nose cone for a heat sink. Weight added by this requirement is very small and is only in the center section. It utilizes new techniques

not known at the time the cone was originally designed. The recovery flight capsule has a two weeks slippage due to a design problem at GE having to do with vibration but this is not considered critical. Additional ablative material is being added to the nose cone. Results will be within design weights.

5. Recovery Techniques: Sink rate of the parachutes is excessive. Parachutes are tearing on recovery due to excessive G's. This has been made an urgent action item and a special report will be issued soon on this critical area. The sea-marker, as expected, is poor. The rescue-light is also very poor and redesign is being done. The beacon is operating well.

6. The firing schedule for firing No. 1 is still early in December and no slippage is foreseen at this time. [] requested Lockheed to submit a proposal contemplating two firings in April and two thereafter rather than 3 total in April and May with two scheduled in November. [] indicated this would increase the cost but agreed to submit such a schedule with attendant additional costs.

7. Discussion was had on the new flexible schedule regarding payloads (Bio, Camera and ANPA) and general agreement was reached that this was a reasonable approach to the problem.

8. Considerable discussion was had on the cover story and Colonel Sheppard will submit his comments to [] planned to brief General Wade at Vandenberg, accompanied by [] on 21 November.

9. Col. Sheppard expects us to handle the policy problems connected with approval to fire any given shot.

10. Weight problems still plague us in the GORONA program. Investigations are still going on in possible solutions to get a definite positive weight balance. Possible areas are (a) remove some telemetry gear (b) select engines (c) lower launch azimuth, etc. The latter remedy can pick up as much as 50 pounds. It must be kept in mind all weight problems relate to probability of orbit (90% downward) and this in turn is related to over-all percentages of reliability of the whole system.

11. The progress review charts, of which you have a copy, will show additional detail in the above items. Should you have any questions after review of the charts I should be happy to review them with you.

[]
Director of D & F

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[redacted] (28 Nov 1958)

- 1 - Addressee
- 2 - Col. Burke
- 3 - D & P
- 4 - [redacted]
- 5 - Security
- 6 - Ops [redacted]
- 7 - COM Chrono

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